

CORNELSCOURT RESIDENTIAL DEVELOPMENT

Lands at Cornelscourt Village, Old Bray Road, Cornelscourt, Dublin 18

BUILDING LIFE CYCLE REPORT



DOCUMENT HISTORY

ISSUE NO:	1	2	3
STATUS:	DRAFT	UPDATED	UPDATED
DATE:	04/10/19	22/10/19	05/1/19
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1.0. INTRODUCTION

Aramark Property were instructed by Cornel Living Limited to provide a Building Lifecycle Report for their proposed residential scheme at lands at Cornelscourt Village, Old Bray Road, Cornelscourt, Dublin 18.

The purpose of this report is to provide an initial assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered to effectively manage and reduce costs for the benefit of the residents. This is achieved by producing a Building Lifecycle Report.

The Building Lifecycle Report has been developed on foot of newly revised guidelines for Sustainable Urban Housing: Design Standards for New Apartments (Guidelines for Planning Authorities) under Section 28 of the Planning and Development Act 2000 (as amended). Within the new guidelines, new guidance is being provided on residential schemes.

Section 6.13 of the Apartment Guidelines 2018 requires that apartment applications shall:

“include a building lifecycle report which in turn includes an assessment of long term running and maintenance costs as they would apply on a per residential unit basis at the time of application, as well as demonstrating what measures have been specifically considered by the proposer to effectively manage and reduce costs for the benefit of the residents.”

This report also addresses An Bord Pleanála’s reference to the above requirement contained in Pre-Application Consultation Opinion Item 2 (dated 9 August 2019):

“A building lifecycle report for the proposed apartments in accordance with section 6.13 of the 2018 guidelines should also be submitted.”

2.0. DESCRIPTION OF DEVELOPMENT

Living Limited intends to apply to An Bord Pleanála for permission for a Build - to - Rent Strategic Housing Development on lands (c. 2.14 ha) at Cornelscourt Village, Old Bray Road, Cornelscourt Dublin 18.

The proposed development shall provide for the construction of a new residential development of 468 no. units in the form of 452 no. apartment units (41 no. studio apartment units, 257 no. 1 bed apartment units, 136 no. 2 bed apartment units; and 18 no. 3 bed apartment units) and 16 no. house units (10 no. 3 bed semi-detached house units and 6 no. 1 bed bungalow units). A café / restaurant of c. 140 sq m; office space of 149 sq m; concierge of c. 149 sq m and central residential tenant amenity space of c. 458 sq m is also proposed.

The following build - to - rent residential development is provided:

- 452 build to rent apartment units (ranging from 1 - 12 storeys in height) in the form of 8 no. new residential blocks (Blocks A - H) as follows:
- Block A (8 - 12 storeys) comprising 134 no. apartments (12 no. studio units, 93 no. 1 bed units and 29 no. 2 bed units);
- Block B (2 - 9 storeys) comprising 103 no. apartments (18 no. studio units, 65 no. 1 bed units; 14 no. 2 bed units and 6 no. 3 bed units);
- Block C (6 - 7 storeys) comprising 82 no. apartments (6 no. studio units, 60 no. 1 bed units and 16 no. 2 bed units);
- Block D (5 storeys) comprising 36 no. apartments (1 no. studio unit, 5 no. 1 bed units; and 30 no. 2 bed units);
- Block E (4 storeys) comprising 29 no. apartments (4 no. 1 bed units; and 25 no. 2 bed units);
- Block F (2 - 4 storeys) comprising 56 no. apartments (4 no. studio units, 24 no. 1 bed units; and 16 no. 2 bed units and 12 no. 3 bed units);
- Block G (3 storeys) comprising 6 no. apartments (3 no. 1 bed units and 3 no. 2 bed units); and
- Block H (3 storeys) comprising 6 no. apartments (3 no. 1 bed units and 3 no. 2 bed units).
- 10 no. 3 bed semi-detached houses (2 storey) and 6 no. 1 bed bungalows (1 storey) are proposed.

Adjacent to the existing pedestrian and vehicular access point from Old Bray Road there will be a café/restaurant of 140 sq m and residential amenity area at ground and first floor providing resident support services and concierge services of 149 sq m. At first floor level is a proposed commercial office space of c. 149 sq m. Located centrally within the development attached to the southern gable of

Block B there is a two storey residential amenity space of c. 458 sq m; providing for resident support facilities and amenities including reading room, lounge, gym and terrace.

Each residential unit will be afforded with private open space in the form of a balcony/terrace/roof terrace or private rear garden area. Public open space is also proposed in the form of external residential amenity spaces, play areas, courtyards and gardens.

279 car parking spaces (278 at basement level and 1 at ground level), 616 bicycle parking spaces (512 at basement level and 104 at ground level) and 12 motorcycle spaces (12 at basement level) are proposed.

Basement areas of c. 9,024 sq m are proposed (Level -1) and include car parking, waste management areas and plant areas. 3 no. ESB substations and 3 no. Switch Rooms (c. 77 sq m combined) are proposed at ground level.

The development shall be served via the existing vehicular access point from the Old Bray Road. Upgrade works are proposed to this vehicular access point to facilitate the proposed development and to provide for improved access and egress for the overall development.

Provision is made for new pedestrian connections to Willow Grove; the N11; and Cornelscourt Village. Provision is also made for a new cyclist connection to the N11. A drop-off zone is also proposed at the entrance to the site.

The associated site and infrastructural works include provision for water services; foul and surface water drainage and connections; attenuation proposals; permeable paving; all landscaping works; boundary treatment; internal roads and footpaths; and electrical services.

3.0. EXECUTIVE SUMMARY – BUILDING LIFE CYCLE REPORT

Measures to effectively manage and reduce costs for the benefit of residents

The following document reviews the outline specification set out for the proposed residential development at Cornelscourt, Dublin 18 and explores the practical implementation of the design and material principles which has informed design of building roofs, façades, internal layouts and detailing of the proposed development.

Building materials proposed for use on elevations and in the public realm achieve a durable standard of quality that will not need regular fabric replacement or maintenance outside general day to day care. The choice of high quality and long-lasting materials such as brickwork, render and metal cladding, as well as both soft and hardscape in the public, semi-public and private realm will contribute to lower maintenance costs for future residents and occupiers.

Please note that detailed specifications of building fabric and services have not been provided at this stage. This report reflects the outline material descriptions contained within Henry J Lyons' architectural drawing pack '*95-0558 Architectural Drawings Submission Rev B*' received 7 October 2019.

For any elements where information was not available, typical examples have been provided of building materials and services used for schemes of this nature and their associated lifespans and maintenance requirements. All information is therefore indicative subject to further information at detailed design stage.

As the building design develops this document will be updated and a schedule will be generated from the items below detailing maintenance and replacement costs over the lifespan of the materials and development constituent parts. This will enable a robust schedule of building component repair and replacement costs which will be available to the property management company so that running and maintenance costs of the development are kept within the agreed Annual operational budget.

4.0. EXTERNAL BUILDING FABRIC SCHEDULE

4.1. Roofing

4.1.1. Green roofs

<i>Location</i>	All flat roof areas (maintenance access only)
<i>Description</i>	Extensive sedum roof system to engineer's specification
<i>Lifecycle</i>	Average lifecycle of 15-35 years on most green roofs. Lifecycle will be extended with robust proven detailing to adjoining roof elements and appropriate and regular maintenance of the roof materials.
<i>Required maintenance</i>	Quarterly maintenance visits to include inspection of drainage layer and outlets and removal of any blockages to prevent ponding. Inspection of vegetation layer for fungus and decay. Carry out weeding as necessary. No irrigation necessary with sedum blankets.
<i>Year</i>	Quarterly
<i>Priority</i>	Medium
<i>Selection process</i>	A green roof will add to the character of the overall scheme, as well as providing attenuation to storm water run-off and less burden on rainwater goods, increased thermal and sound insulation to the building and increased bio-diversity. Natural soft finishes can provide visual amenity for residents where roof areas are visible or accessible from within areas of the scheme. Sedum roofs are a popular and varied choice for green roofs requiring minimal maintenance.
<i>Reference</i>	HJL architectural drawings (Rev B) dated September 2019

<i>Location</i>	Roof terraces
<i>Description</i>	<ul style="list-style-type: none"> • Light weight precast concrete / stone paving slabs on support system, or • Timber decking, or • Resin bound gravel surfacing. • Roof deck build up to architects' and engineers' instructions.
<i>Lifecycle</i>	<ul style="list-style-type: none"> • Average lifecycle of 30 years for paving slabs. • Average lifecycle of 10-20 years for timber. • Average lifecycle of 10-20 years for gravel surfacing.
<i>Required maintenance</i>	<p>Quarterly maintenance visits to include:</p> <ul style="list-style-type: none"> • Inspection of drainage layer and outlets and removal of any blockages to prevent water build up. • Inspection of all metalwork and fixings for loosening or degradation including railings, planters, flashings, decking, drainage channels and repair/replace as necessary.

	<ul style="list-style-type: none"> • Check for displacement of slabs and mortar decay and remove organic matter. • Power-washing of hard surfaces. • Timber decking requires cleaning, sanding and recoating with proprietary wood stain on an annual basis to ensure safety, longevity and maintained aesthetic value.
<i>Year</i>	Quarterly / annual
<i>Priority</i>	Medium
<i>Selection process</i>	Paving slabs provide a robust and long-lasting roof terrace surface, requiring considerably less maintenance when compared to timber decking or gravel surfaces.
<i>Reference</i>	N/A

4.1.2. Fall arrest system for roof maintenance access

<i>Location</i>	Roofs
<i>Description</i>	<ul style="list-style-type: none"> • Fall Protection System on approved anchorage device • Installation in accordance with BS 7883 by the system manufacturer or a contractor approved by the system manufacturer
<i>Lifecycle</i>	25-30 years dependent on quality of materials. Generally steel finishes to skyward facing elements can be expected to maintain this life expectancy.
<i>Required maintenance</i>	Check and reset tension on the line as per manufacturer's specifications. Check all hardware components for wear (shackles, eye bolts, turn buckles). Check elements for signs of wear and/or weathering. Lubricate all moving parts. Check for structural damage or modifications.
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	Fall protection systems are a standard life safety system, provided for safe maintenance of roofs and balconies where there is not adequate parapet protection. A FPS must comply with relevant quality standards.
<i>Reference</i>	N/A

4.1.3. Roof cowls

<i>Location</i>	Roofs
<i>Description</i>	<ul style="list-style-type: none"> • Roof Cowl System to be supplied with weather apron for flat roofs. • Stainless Steel goose neck tube to facilitate power supply to external roof level bolted to roof and weathered using proprietary weather apron.
<i>Lifecycle</i>	25-35 years
<i>Required maintenance</i>	Check fixings annually, inspect for onset of leading edge corrosion if epoxy powder coat finish and treat.
<i>Year</i>	Annually
<i>Priority</i>	Low
<i>Selection process</i>	Standard fitting for roof termination of mechanical ventilation system

<i>Reference</i>	N/A
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4.1.4. Flashings

<i>Location</i>	All flashing locations
<i>Description</i>	Lead to be used for all flashing and counter flashings
<i>Lifecycle</i>	Typical life expectancy of 70 years recorded for lead flashings. Recessed joint sealing will require regular inspections.
<i>Required maintenance</i>	Check joint fixings for lead flashing, ground survey annually and close up inspection every 5 years. Re-secure as necessary.
<i>Year</i>	Ground level inspection annually and close up inspection every 5 years
<i>Priority</i>	Medium
<i>Selection process</i>	Lead has longest life expectancy of comparable materials such as copper (60 years) and zinc (50 years). Lead is easily formed into the required shapes for effective weathering of building junctions according to Lead Sheet Association details.
<i>Reference</i>	N/A

4.2. Rainwater drainage

<i>Location</i>	All buildings
<i>Description</i>	<ul style="list-style-type: none"> • <i>Rainwater outlets:</i> Suitable for specified roof membranes • <i>Pipework:</i> Cast Aluminium downpipes/uPVC downpipes • <i>Below ground drainage:</i> To M&E/ Structural Engineers design and specification • <i>Disposal:</i> To surface water drainage to Structural Engineers design • <i>Controls:</i> To M&E/ Structural Engineers design and specification • <i>Accessories:</i> allow for outlet gradings, spigots, downspout nozzle, hopper heads, balcony and main roof outlets
<i>Lifecycle</i>	Aluminium gutters and downpipes have an expected life expectancy of 40 years in rural and suburban conditions (25 years in industrial and marine conditions), this is comparable to cast iron of 50 years and plastic, less so at 30 years.
<i>Required maintenance</i>	As with roofing systems routine inspection is key to preserving the lifecycle of rainwater systems. Regular cleaning and rainwater heads and gutters, checking joints and fixings and regularly cleaning polyester coated surfaces (no caustic or abrasive materials).
<i>Year</i>	Annually, cleaning bi-annually
<i>Priority</i>	High
<i>Selection process</i>	As above, aluminium fittings compare well against cast iron (in terms of cost) and plastic (in terms of lifespan and aesthetic)
<i>Reference</i>	N/A

4.3. External walls

4.3.1. Brick cladding

<i>Location</i>	Façades
<i>Description</i>	Light and dark coloured brick cladding
<i>Lifecycle</i>	While bricks have a high embodied energy, they are an extremely durable material. Brickwork in this application is expected to have a lifespan of 50-80 years. The mortar pointing however has a shorter lifespan of 25-50 years.
<i>Required maintenance</i>	In general, given their durability, brickwork finishes require little maintenance. Most maintenance is preventative: checking for hairline cracks, deterioration of mortar, plant growth on walls, or other factors that could signal problems or lead to eventual damage.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Aesthetic, lightweight, cost-efficient and low maintenance cladding option, indistinguishable from traditional brick construction.
<i>Reference</i>	HJL architectural drawings (Rev B) & Design Report (Rev B) dated September 2019

4.3.2. Render

<i>Location</i>	Façades
<i>Description</i>	Selected render finish
<i>Lifecycle</i>	Renders in general are expected to have a lifecycle of circa 25 years
<i>Required maintenance</i>	Regular inspections to check for cracking and de-bonding. Most maintenance is preventative. Coloured render requires less maintenance than traditional renders.
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	Appropriate detailing will contribute to a long lifespan for this installation. Acrylic render is a durable and low-maintenance finish with the added benefit of this product being BBA certified against other render systems.
<i>Reference</i>	HJL architectural drawings (Rev B) & Design Report (Rev B) dated September 2019

4.3.3. Metal cladding

<i>Location</i>	Façades
<i>Description</i>	Bronze anodised aluminium cladding panels
<i>Lifecycle</i>	Typical life expectancy of over 40 years
<i>Required maintenance</i>	Metal cladding requires little maintenance and is resistant to corrosion. It can contribute to lower ongoing maintenance costs in comparison to

	exposed porous materials which may be liable to faster deterioration. Long term cleaning requirements should be taken into consideration.
<i>Year</i>	Inspection annually; cleaning 5 yearly
<i>Priority</i>	Low
<i>Selection process</i>	Metal cladding protects the building's structure from rainwater and weathering. Metal cladding systems are also chosen for their aesthetic impact, durability and weathering properties.
<i>Reference</i>	HJL architectural drawings (Rev B) & Design Report (Rev B) dated September 2019

4.4. External windows & doors

<i>Location</i>	Façades
<i>Description</i>	<ul style="list-style-type: none"> Aluminium framed windows, doors and curtain wall glazing system to selected colour. All units to be double / triple glazed with thermally broken frames. All opening sections in windows to be fitted with suitable restrictors. Include for all necessary ironmongery; include for all pointing and mastic sealant as necessary; fixed using stainless steel metal straps screwed to masonry reveals; include for all bends, drips, flashings, thermal breaks etc.
<i>Lifecycle</i>	Aluminium has a typical lifespan of 45-60 years in comparison to uPVC which has a typical lifespan of 30-40 years. Timber windows have a typical lifespan of 35-50 years, aluminium cladding can extend this lifespan by 10-15 years.
<i>Required maintenance</i>	Check surface of windows and doors regularly so that damage can be detected. Vertical mouldings can become worn and require more maintenance than other surface areas. Lubricate at least once a year. Ensure regular cleaning regime. Check for condensation on frame from window and ensure ventilation.
<i>Year</i>	Annual
<i>Priority</i>	Medium
<i>Selection process</i>	Aluminium is durable and low maintenance with an average lifespan of 45-60 years, exceeding uPVC (30-40 years). Alu-clad timber windows compare favourably when compared to the above, extending timber windows typical lifespan of 35-50 years by 10-15 years.
<i>Reference</i>	HJL architectural drawings (Rev B) & Design Report (Rev B) dated September 2019

4.5. Balconies

4.5.1. Structure

<i>Location</i>	Façades
<i>Description</i>	<ul style="list-style-type: none"> • Architectural concrete balcony system to engineer's detail / • Powder-coated steel frame balcony system to engineer's detail • Thermally-broken farrat plate connections to main structure of building.
<i>Lifecycle</i>	<ul style="list-style-type: none"> • Metal structure has a typical life expectancy of 70 years dependent on maintenance of components. • Concrete structures have a high embodied energy, however it is an extremely durable material. Concrete frame has a typical life expectancy of over 80 years.
<i>Required maintenance</i>	Relatively low maintenance required. Check balcony system as per manufacturer's specifications. Check all hardware components for wear. Check elements for signs of wear and/or weathering. Check for structural damage or modifications.
<i>Year</i>	Annual
<i>Priority</i>	High
<i>Selection process</i>	Engineered detail; designed for strength and safety.
<i>Reference</i>	HJL architectural drawings (Rev B) & Design Report (Rev B) dated September 2019

4.5.2. Balustrades and handrails

<i>Location</i>	Balconies
<i>Description</i>	<ul style="list-style-type: none"> • Clear glass balustrades • Fixing in accordance with manufacturer's details
<i>Lifecycle</i>	General glass and metal items with a 25-45 year lifespan
<i>Required maintenance</i>	Regular visual inspection of connection pieces for impact damage or alterations
<i>Year</i>	Annual
<i>Priority</i>	High
<i>Selection process</i>	Long lifespan versus timber options
<i>Reference</i>	HJL architectural drawings (Rev B) & Design Report (Rev B) dated September 2019

5.0. INTERNAL BUILDING FABRIC SCHEDULE

5.1. Floors

5.1.1. Common areas

<i>Location</i>	Entrance lobbies / Reception areas / corridors
<i>Description</i>	<ul style="list-style-type: none"> Selected anti-slip porcelain or ceramic floor tile Provide for inset matwell
<i>Lifecycle</i>	Lifespan expectation of 20-30 years in heavy wear areas, likely requirement to replace for modernisation within this period also
<i>Required maintenance</i>	Visual inspection, intermittent replacement of chipped / loose tiles
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Durable, low maintenance floor finish. Slip rating required at entrance lobby, few materials provide this and are as hard wearing.
<i>Reference</i>	N/A

<i>Location</i>	Stairwells, landings / half landings
<i>Description</i>	Selected carpet covering. Approved anodised aluminium nosings to stairs.
<i>Lifecycle</i>	<ul style="list-style-type: none"> 10-15 year lifespan for carpet. Likely requirement to replace for modernisation within this period also. 20 year lifespan for aluminium nosings.
<i>Required maintenance</i>	Visual inspection with regular cleaning.
<i>Year</i>	Quarterly inspection and cleaning as necessary.
<i>Priority</i>	Low
<i>Selection process</i>	Using carpet allows flexibility to alter and change as fashions alter and change providing enhanced flexibility.
<i>Reference</i>	N/A

<i>Location</i>	Lifts
<i>Description</i>	Tiles to match adjacent apartment lobbies.
<i>Lifecycle</i>	Lifespan expectation of 20-25 years in heavy wear areas for the tiling.
<i>Required maintenance</i>	Visual inspection, intermittent replacement of chipped / loose tiles.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Slip rating required for lifts, few materials provide this and are as hard wearing.
<i>Reference</i>	N/A

5.1.2. Tenant amenity areas

<i>Location</i>	Gym (Block B)
<i>Description</i>	Selected timber flooring with selected underlay, weights area to receive selected raised designated zone, where the flooring can be built-up locally to accommodate this use and reduce potential impact sound with selected rubber matting or similar approved.
<i>Lifecycle</i>	Timber flooring with selected underlay has an expected life expectancy of 10-15 years dependent on use. A gym would be a high-use area which can significantly shorten timber floor lifespan.
<i>Required maintenance</i>	Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.
<i>Year</i>	Quarterly
<i>Priority</i>	Medium
<i>Selection process</i>	Appropriate use of timber floors, specifically in gym areas controls acoustic impact.
<i>Reference</i>	N/A

<i>Location</i>	Resident's lounge / reading room (Block B)
<i>Description</i>	<ul style="list-style-type: none"> • Timber laminate / parquet flooring, or • Carpet covering • Provide for inset matwell
<i>Lifecycle</i>	<ul style="list-style-type: none"> • Laminated / parquet timber flooring has an expected life expectancy of 25-35 years dependent on use • 10-15 year lifespan for carpet • Likely requirement to replace for modernisation within this period also
<i>Required maintenance</i>	Visual inspection, intermittent replacement of chipped / loose tiles. Sweep clean regularly ensuring to remove any dirt. Clean up spills immediately and use only recommended floor cleaners.
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Materials chosen for aesthetics, durability and low maintenance.
<i>Reference</i>	N/A

<i>Location</i>	All wet areas (e.g. gym changing areas, WCs)
<i>Description</i>	Selected anti-slip ceramic floor tile.
<i>Lifecycle</i>	Lifespan expectation of 20-25 years in heavy wear areas, likely requirement to replace for modernisation within this period also.
<i>Required maintenance</i>	Visual inspection, intermittent replacement of chipped / loose tiles.
<i>Year</i>	Annual
<i>Priority</i>	Low

<i>Selection process</i>	Slip rating required at entrance lobby, few materials provide this and are as hard wearing.
<i>Reference</i>	N/A

5.2. Walls

5.2.1. Common areas

<i>Location</i>	Entrance lobbies / Reception areas
<i>Description</i>	Selected contract vinyl wall paper feature, or; Selected paint finish with primer to skimmed plasterboard
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

<i>Location</i>	Lobbies / corridors / stairs
<i>Description</i>	Selected contract vinyl wallpaper, class O rated, or Selected paint finish with primer to skimmed plasterboard
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

5.2.2. Tenant amenity areas

<i>Location</i>	Gym (Block B)
<i>Description</i>	Selected paint finish with primer to skimmed plasterboard.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard.
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

<i>Location</i>	Resident's lounge / reading room (Block B)
<i>Description</i>	Selected contract vinyl wall paper feature, or Selected paint finish with primer to skimmed plasterboard.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard.
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

<i>Location</i>	Wet areas (e.g. gym changing areas, WCs)
<i>Description</i>	Selected ceramic wall tile to plasterboard (moisture board to wet areas).
<i>Lifecycle</i>	Typical life expectancy of 35-40 years, less in wet room areas to 20-25 years.
<i>Required maintenance</i>	Bi-annual inspection to review damage, local repairs as necessary, particular detailed inspection in wet room areas.
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	Wet room application requires moisture board and tiling.
<i>Reference</i>	N/A

5.3. Ceilings

<i>Location</i>	Common areas & tenant amenity areas
<i>Description</i>	Selected paint finish with primer to skimmed plasterboard ceiling on M/F frame. Acoustic ceiling to lift core and apartment lobbies. Moisture board to wet areas.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard
<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish
<i>Reference</i>	N/A

<i>Location</i>	Tenant amenity wet areas (e.g. gym changing areas & WCs)
<i>Description</i>	Selected paint finish with primer to skimmed moisture board ceiling.
<i>Lifecycle</i>	2-10 years for finishes; 40 years for plasterboard.

<i>Required maintenance</i>	Regular maintenance required, damp cloth to remove stains and replacement when damaged.
<i>Year</i>	Bi-annually
<i>Priority</i>	Low
<i>Selection process</i>	Decorative and durable finish.
<i>Reference</i>	N/A

5.4. Internal handrails & balustrades

<i>Location</i>	Stairs & landings
<i>Description</i>	Proprietary glazed panel system face fixed to stairs stringer / landing slab to manufacturer's details and specifications, or Metal balustrade option (TBC)
<i>Lifecycle</i>	25-30 years typical lifecycle
<i>Required maintenance</i>	Regular inspections of holding down bolts and joints
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	Hard wearing long life materials against timber options
<i>Reference</i>	N/A

5.5. Carpentry & joinery

5.5.1. Internal doors and frames

<i>Location</i>	All buildings
<i>Description</i>	<ul style="list-style-type: none"> Selected white primed and painted/varnished solid internal doors, or hardwood veneered internal doors All fire rated doors and joinery items to be manufactured in accordance with B.S. 476. Timber saddle boards. Brushed aluminium door ironmongery or similar
<i>Lifecycle</i>	30 years average expected lifespan
<i>Required maintenance</i>	General maintenance in relation to impact damage and general wear and tear
<i>Year</i>	Annual
<i>Priority</i>	Low, unless fire door High
<i>Selection process</i>	Industry standard
<i>Reference</i>	N/A

5.5.2. Skirtings & architraves

<i>Location</i>	All buildings
<i>Description</i>	Painted timber/MDF skirtings and architraves
<i>Lifecycle</i>	30 years average expected lifespan
<i>Required maintenance</i>	General maintenance in relation to impact damage and general wear and tear
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Industry standard
<i>Reference</i>	N/A

5.5.3. Window boards

<i>Location</i>	Residential blocks
<i>Description</i>	Painted timber/MDF window boards
<i>Lifecycle</i>	30 years average expected lifespan
<i>Required maintenance</i>	General maintenance in relation to impact damage and general wear and tear
<i>Year</i>	Annual
<i>Priority</i>	Low
<i>Selection process</i>	Industry standard
<i>Reference</i>	N/A

6.0. BUILDING SERVICES

6.1. Mechanical Systems

6.1.1. Mechanical Plant - Apartments

<i>Location</i>	Plant Rooms
<i>Description</i>	<p>Centralised Heating Plant– Specification to be further details to be provided by the M&E Consultant at detailed design stage.</p> <p>Heating plant is proposed to consist of consisting of Gas fired boilers combined with/or CHP/ Air Source Heat Pumps</p>
<i>Lifecycle</i>	<p>Annual Maintenance / Inspection to Heating System Annual Maintenance of Air Source Heat Pumps / CHP Annual Maintenance / Inspection to Heating and Water Pumps. Annual Maintenance / Inspection to Water Tanks. Annual Maintenance / Inspection to Booster - sets. Annual Maintenance / Inspection to DHS Tanks. Annual Maintenance / Inspection of district heating system pipework, valves, accessories and insulation.</p> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p> <p>Replacement of equipment at (End of Life) EOL to be determined at detailed design stage.</p>
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.2. Mechanical Plant - Houses

<i>Location</i>	Kitchen / External
<i>Description</i>	Heating plant is proposed to consist of consisting of Gas fired boilers / Air Source Heat Pumps local to each house.
<i>Lifecycle</i>	<p>Annual Maintenance / Inspection to Heating System Annual Maintenance of Air Source Heat Pumps Annual Maintenance / Inspection to Heating and Water Pumps. Annual Maintenance / Inspection to Water Tanks. Annual Maintenance / Inspection to DHS Tanks.</p> <p>Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.</p> <p>Replacement of equipment at (End of Life) EOL to be determined at detailed design stage.</p>
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.3. Soils and Wastes - (Houses & Apartments)

<i>Location</i>	All Areas / kitchens Pods etc
<i>Description</i>	PVC Soils and Wastes Pipework
<i>Lifecycle</i>	Annual inspections required for all pipework within landlord areas. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.4. Water Services - (Houses & Apartments)

<i>Location</i>	Apartments, Kitchens, Pods etc
<i>Description</i>	Copper Water Services Pipework and associated fittings and accessories.
<i>Lifecycle</i>	Annual inspections required for all pipework within landlord areas. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Inspections, including legionella testing to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.5. Gas Services

<i>Location</i>	Apartment Blocks Plant Rooms – Where Gas Appliances Present
<i>Description</i>	Gas Detection Systems.
<i>Lifecycle</i>	Annual Maintenance / Inspection Gas detection systems within landlord plant rooms. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections, testing and certification to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.6. Heating Services (Apartments Only)

<i>Location</i>	Apartment
<i>Description</i>	Heat interface Units (HIU) proposed to be installed at each unit.
<i>Lifecycle</i>	Annual Inspection of Heat Interface Unit in each unit. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.1.7. Ventilation Services (Apartment & Houses)

<i>Location</i>	Apartments / Houses
<i>Description</i>	Heat Recovery Units, Ducting & Grilles (MVHR)
<i>Lifecycle</i>	Annual inspection of extract fan and grilles. Annual Inspection of operation of fan and boost / setback facility. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.2. Electrical / Protective Services

6.2.1. Electrical Infrastructure (Apartments Only)

<i>Location</i>	Switch rooms / Risers
<i>Description</i>	Maintenance of Electrical Switchgear
<i>Lifecycle</i>	Annual Inspection of Electrical Switchgear and switchboards. Thermographic imaging of switchgear 50% of MV Switchgear Annually and LV switchgear every 3 years. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual / Every three years to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Annually
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet and exceed ESB, ETCI , CIBSE recommendations and be code compliant in all cases.
<i>Reference</i>	N/A

6.2.2. Lighting Services internal (Apartments & Houses)

<i>Location</i>	All Areas – Internal
<i>Description</i>	Lighting – LED throughout with Presence detection in circulation areas and locally controlled in apartments.
<i>Lifecycle</i>	Annual Inspection of All Luminaires Quarterly Inspection of Emergency Lighting. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required per above remedial works.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet requirements and be in accordance with the current IS3217, Part M and DAC Requirements.
<i>Reference</i>	N/A

6.2.3. Lighting Services External

<i>Location</i>	All Areas – Internal
<i>Description</i>	Lighting – All LED with Vandal Resistant Diffusers where exposed.
<i>Lifecycle</i>	Annual Inspection of All Luminaires Quarterly Inspection of Emergency Lighting Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required as per the PPM schedule.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet requirements and be in accordance with the current IS3217, Part M and DAC Requirements.
<i>Reference</i>	N/A

6.2.4. Protective Services – Fire Alarm (Apartments Only)

<i>Location</i>	All areas – Internal
<i>Description</i>	Fire alarm
<i>Lifecycle</i>	Quarterly Inspection of panels and 25% testing of devices as per IS3218 requirements. Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Annual / Quarterly Inspections certification as required as per the PPM schedule.
<i>Year</i>	Annually / Quarterly
<i>Priority</i>	High
<i>Selection process</i>	All equipment to meet requirements and be in accordance with the current IS3218 and the Fire Cert
<i>Reference</i>	N/A

6.2.5. Protective services – Fire Extinguishers (All Areas)

<i>Location</i>	All Areas – Internal
<i>Description</i>	Fire Extinguishers and Fire Blankets
<i>Lifecycle</i>	Annual Inspection
<i>Required maintenance</i>	Annual with Replacement of all extinguishers at year 10
<i>Year</i>	Annually
<i>Priority</i>	Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Selection process</i>	All fire extinguishers must meet the requirements of I.S 291:2015 Selection, commissioning, installation, inspection and maintenance of portable fire extinguishers.
<i>Reference</i>	N/A

6.2.6. Protective Services – Apartment Sprinkler System (If Applicable)

<i>Location</i>	Apartment
<i>Description</i>	Apartment Sprinkler System
<i>Lifecycle</i>	Weekly / Annual Inspection
<i>Required maintenance</i>	Weekly Check of Sprinkler Pumps and plant and annual testing and certification of plant by specialist.
<i>Year</i>	All
<i>Priority</i>	Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Selection process</i>	The Apartment sprinkler system shall be installed in accordance with BS 9251:2005 – Sprinkler Systems for Residential and Domestic Occupancies – Code of Practice
<i>Reference</i>	N/A

6.2.7. Protective Services – Dry Risers (Apartments Only)

<i>Location</i>	Common Area Cores
<i>Description</i>	Dry Risers
<i>Lifecycle</i>	Weekly / Annual Inspection
<i>Required maintenance</i>	Visual Weekly Checks of Pipework and Landing Valves with Annual testing and certification by specialist.
<i>Year</i>	
<i>Priority</i>	Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Selection process</i>	The system shall be installed in accordance with BS 5041 & BS 9999
<i>Reference</i>	N/A

6.2.8. Fire Fighting Lobby Ventilation (If Applicable / Apartments Only)

<i>Location</i>	Common Area Lobby's
<i>Description</i>	Flakt or Colt Type Smoke Extract / Exhaust Systems
<i>Lifecycle</i>	Regular Tests of the system Annual inspection of Fans Annual inspection of automatic doors and AVOs All systems to be backed up by life safety systems.
<i>Required maintenance</i>	Annual Service Inspections to be included as part of Development Planned Preventative Maintenance Programme
<i>Year</i>	Weekly / Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A

6.2.9. Sources of Renewable Energy (Apartment and Houses)

<i>Location</i>	Roof / Boiler House
<i>Description</i>	PV / Solar Thermal Array on roof Supporting the Part L / NZEB requirements in conjunction with Centralised Boiler house and Air Source Heat Pumps / CHP. Full Details to be provided at detailed stage.
<i>Lifecycle</i>	Quarterly Clean Annual Inspection Cost for replacement equipment to be updated on completion of design matrix of equipment at detailed design stage.
<i>Required maintenance</i>	Quarterly / Annual
<i>Year</i>	Annually
<i>Priority</i>	Medium
<i>Selection process</i>	All equipment to be detailed as part of the detailed design section of the development. This equipment will be selected in conjunction with the design and management team to meet and exceed the CIBSE recommended lifecycles.
<i>Reference</i>	N/A